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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/497,482	02/04/2000	Masahiro Suzuki	103689.01	7544
25944	7590	11/16/2006	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			HENN, TIMOTHY J	
			ART UNIT	PAPER NUMBER
			2622	

DATE MAILED: 11/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/497,482

Applicant(s)

SUZUKI ET AL.

Examiner

Timothy J. Henn

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 40-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3, 7, 8 and 40-46 is/are allowed.
- 6) ☒ Claim(s) 4-6, 9-11, 47 and 48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 August 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claim 11 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 4-6, 9, 10 and 48 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

[claims 4-6, 9, 10 and 48]

Claims 4-6, 9, 10 and 48 claim a recording medium storing an image processing program. However, these claims do not define structural and functional relationships between the program and hardware components and are therefore non-statutory. See the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility, OG Notices: 22 November 2005, Annex IV(a) for further details.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kijima et al. (US 6,661,451) in view of Laroche et al. (US 5,373,322) in view of Freeman (US 4,774,565) in view of Nagasaki (US 5,153,730).

[claim 11]

Regarding claim 11, Kijimia discloses a digital camera comprising: an image-capturing device (Figure 1, Item 12) that captures a subject image having passed through a taking lens (Figure 1, Item 40) and outputs image data; a first image processing circuit that performs pre-treatment on image data corresponding to N lines x M rows (i.e. inherent resolution of the CCD) output by the image-capturing device in line sequence to create a first image data (Figure 1, Items 14 and 16; c. 3, ll. 51-55); a second image processing circuit that creates second image data (Figure 1, Item 26) and a compression circuit that compresses the second image data (Figure 1, Item 30). However, Kijimia lacks format processing on the first image data.

Laroche discloses an interpolation system which converts RGB image data to color difference data (i.e. changing a data format; Figure 2) which is performed in blocks (c. 5, l. 50 - c. 6, l. 58) and reduces color artifacts and improves image sharpness (c. 1, l. 66 - c. 2, l. 6). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the interpolation system of Laroche in the camera of Kijima to properly reconstruct the captured image with reduced color artifacts and improved image sharpness as taught by Laroche. However, Kijimia in view of Laroche lacks performing median processing on the color-difference data.

Freeman discloses subjecting color difference data to a two-dimensional median filter will reduce color fringing artifacts that are present in an image (Figure 2; c. 4, ll. 13-41). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a two-dimensional median filter in the camera of Kijimia in Laroche to further remove any color-fringing artifacts which may exist. The examiner notes that the two-dimensional median filter of Freeman is disclosed as operating over 9 samples spread over 35 possible pixels (i.e. a block). Kijimia in view of Laroche in view of Freeman finally lacks a memory device in which the first image data is temporarily stored.

Nagasaki discloses a camera with a memory device which stores preliminary image data until the camera is in an idle state, at which time the preliminary image data is transferred to an image processing and compression system for final processing and storage (Figure 1, Item 34; c. 6, ll. 5-57). Nagasaki further discloses that this arrangement can produce high quality image signals without the need for high speed processing (c. 7, ll. 27-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include an image memory buffer as taught by Nagasaki in the camera of Kijima in view of Laroche in view of Freeman to create high quality images without the need for high speed processing.

Allowable Subject Matter

6. Claims 1-10 and 40-48 are allowed.

[claims 1-6 and 40-46]

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Regarding claims 1-6 and 40-46 the prior art does not teach or fairly suggest a digital camera in which a second image processing circuit performs format processing in block sizes which are successively decreasing as claimed. While it is known in the art to process image data in blocks, the specific format processing system is not taught or suggested. The examiner notes that claims 4-6 have been rejected under 35 USC §101 and that, while the prior art does not teach the specifics claimed, the §101 rejection will have to be overcome before the claims are passed to issue.

[claims 7-10, 47 and 48]

Regarding claims 7-10, 47 and 48 the prior art does not teach or fairly suggest a digital camera comprising: an image-capturing device that captures a subject image; a recording processing circuit that performs recording processing; and an image processing that calculates color differences signals, performs simultaneous low pass filtering and interpolation processing on the color difference signals using filter coefficients and then performs matrix processing appropriate for recording performed at the recording processing circuit to generate a formatted signal wherein the interpolation and low pass filtering processing are carried out by an arithmetic operation and further color difference signals obtained by the interpolation processing are assigned to pixels having no color difference signal as claimed. The examiner notes that claims 9, 10 and 48 have been rejected under 35 USC §101 and that, while the prior art does not teach the specifics claimed, the §101 rejection will have to be overcome before the claims are passed to issue.


Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Henn whose telephone number is (571) 272-7310. The examiner can normally be reached on M-F 9:00 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivek Srivastava can be reached on (571) 272-7304. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TJH
11/7/2006


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